



Louisville Gas and Electric Company
220 West Main Street (40202)
P.O. Box 32010
Louisville, Kentucky 40232

May 26, 2004

Elizabeth O'Donnell, Executive Director
Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602

RECEIVED

MAY 26 2004

Case 2004-00198

**PUBLIC SERVICE
COMMISSION**

Dear Ms. O'Donnell:

Filed herewith are an original and ten (10) copies of Louisville Gas and Electric Company's Application to implement a Natural Gas Supply Hedge Plan. Accompanying this filing are an original and ten (10) copies of a Motion for Confidential Treatment of Certain Information contained in the proposed Natural Gas Supply Hedge Plan.

Respectfully,

Robert M. Conroy
Manager, Rates

Enclosures

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

MAY 26 2004

In the Matter of:

PUBLIC SERVICE
COMMISSION

THE APPLICATION OF LOUISVILLE)
GAS AND ELECTRIC COMPANY TO)
IMPLEMENT A NATURAL GAS)
SUPPLY HEDGE PLAN)

CASE NO. 2004-00198

* * * * *

APPLICATION

The Applicant, Louisville Gas and Electric Company ("LG&E"), respectfully submits this Application to implement a natural gas supply hedge plan.

1. The full name and post office address of LG&E is Louisville Gas and Electric Company, 220 West Main Street, P.O. Box 32010, Louisville, Kentucky 40232.

2. LG&E is a Kentucky corporation whose Restated Articles of Incorporation, as amended, are on file with the Commission in Case No. 2000-095, In the Matter of: The Joint Application of PowerGen plc, LG&E Energy Corp., Louisville Gas and Electric Company and Kentucky Utilities Company for Approval of a Merger.

3. LG&E hereby requests the Commission to issue an order approving the implementation by LG&E of the Natural Gas Supply Hedge Plan for the 2004/2005 Winter Heating Season and thereafter on an ongoing basis, which is described in Exhibit A, attached hereto and made a part hereof (the "Hedge Plan"). The Hedge Plan attached hereto has been redacted in connection with the Petition for Confidential Treatment filed simultaneously herewith.

4. The facts on which this Application is based are fully set forth in the Hedge Plan attached hereto and made a part hereof.

5. LG&E requests that the Commission approve the Hedge Plan on an ongoing basis to alleviate the need to make future annual hedge plan filings.

6. LG&E respectfully requests expedited consideration of the Hedge Plan so that, if approved, it can be implemented in a timely fashion.

WHEREFORE, Louisville Gas and Electric Company respectfully prays that the Commission issue an order approving its Natural Gas Supply Hedge Plan for the 2004/2005 Winter Heating Season and thereafter on an ongoing basis.

Respectfully submitted,

Dorothy E. O'Brien
LOUISVILLE GAS AND ELECTRIC
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and

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By  _____

Counsel for Louisville Gas and
Electric Company

EXHIBIT A

REDACTED VERSION

**LOUISVILLE GAS AND ELECTRIC COMPANY
NATURAL GAS SUPPLY HEDGE PLAN**

INTRODUCTION

On April 30, 2003, Louisville Gas and Electric Company (“LG&E”) filed in Case No. 2003-00149 two alternative natural gas hedge plans for the Winter of 2003/2004. The two alternatives included (1) a hedge plan using storage only, and (2) a hedge plan designed to supplement storage with financial instruments. In its Order dated July 22, 2003, the Kentucky Public Service Commission (“Commission”) approved a hedging alternative relying only upon LG&E’s storage which was also supported by the Commonwealth of Kentucky’s Utility and Rate Intervention Division of the Office of the Attorney General (“AG”).

LG&E’s chief guidance regarding hedging has been the Commission’s Order dated July 17, 2001, in Administrative Case No. 384. However, on November 15, 2002, the Commission published the “Final Report: Audit of Five Major Kentucky Gas Local Distribution Companies” (“Audit Report”), which also provided some discussion on hedging. LG&E has considered concepts from both the Order in Administrative Case No. 384 and the Audit Report in formulating the hedge plan proposed herein. Additionally,

LG&E has considered the Commission's Orders issued with respect to LG&E's prior natural gas hedge plan filings.

Hedging may be used to reduce exposure to price volatility, but it cannot be used as a means for routinely procuring gas at less than market prices. As the Commission has recognized, no hedging plan can guarantee lower costs to customers on an on-going basis. Indeed, "the Commission recognizes that obtaining gas supplies at market clearing prices produces lower overall long-run costs...."¹ Nor is hedging a remedy to higher natural gas prices that have arisen as the result of market forces. Market prices for natural gas will continue to be determined by perceived changes in supply and demand and impacted by such variables as national storage inventory levels, exploration and production activity, weather, market liquidity, general economic activity reflected in demand by industrial process users and electric generators, as well as global events. Therefore, customers may continue to see higher bills despite hedging.

LG&E's gas acquisition strategies have resulted in rates which are below Commonwealth and national averages. LG&E is concerned that any departure from its current practice of pursuing a least-cost acquisition strategy may adversely affect its gas procurement efforts by increasing gas costs without yielding appropriate benefits. Therefore, LG&E believes that a hedge plan designed to potentially reduce price volatility should be implemented in a least cost manner that limits customer exposure to hedging costs.

¹ See Order in Administrative Case No. 384 dated July 17, 2001, at. pp. 9-10.

In Administrative Case No. 384, the Commission stated that local distribution companies (“LDCs”) “should maintain their objective of procuring wholesale natural gas supplies at market clearing prices, within the context of maintaining a balanced natural gas supply portfolio that balances the objectives of obtaining low cost gas supplies, minimizing price volatility, and maintaining reliability of supply.”² Commission approval of LG&E’s proposal described herein allows LG&E to implement a natural gas procurement strategy that addresses the objectives of the Commission’s Order dated July 17, 2001.

SUMMARY OF HEDGE PLAN

In this filing, LG&E is proposing for the Commission’s consideration and requesting that the Commission approve a hedge plan for the 2004/2005 and subsequent winter seasons which relies upon LG&E’s use of its on-system storage and quarterly Gas Supply Clause mechanism. This plan is the same as the option approved by the Commission in Case No. 2003-00149 for the 2003/2004 Winter Season and also essentially the same as the option approved by the Commission in Case No. 2002-00136 for the 2002/2003 Winter Season.

An additional option that customers can choose at no cost, and which will further reduce volatility, is LG&E’s Budget Payment Plan.³ The Budget Payment Plan is an effective option that can be used by customers irrespective of any hedge plan ultimately approved

² See Order in Administrative Case No. 384 dated July 17, 2001, at p. 18.

³ See LG&E’s “Rules and Regulations Governing the Supply of Gas Service” regarding LG&E’s “Budget Payment Plan”.

by the Commission. The Budget Payment Plan can help reduce volatility in customer bills over the course of a year, such fluctuations being largely the result of changes in consumption arising from weather. Reducing volatility associated with customer bills through budget billing options may mitigate customer behavior leading to arrearages, bad debt write-offs, and service terminations. Arrearages, bad debt write-offs, and service terminations are closely related to the size of the residential bill, which is in turn largely driven by weather dependent consumption. Budget billing options already in place, and currently available to customers, can be used as an effective means to further decrease the volatility of month-to-month Winter heating bills on consumers. Indeed, the Commission has recognized the usefulness of budget billing in mitigating volatility of customers heating bills.⁴

GOALS OF HEDGE PLAN

LG&E's proposed hedge plan is designed to reduce price volatility with the following goals:

- reducing, but not eliminating, retail price volatility arising from market price volatility;
- limiting the overall exposure of customers to incremental financial hedging costs;
- providing for the full recovery of hedging costs from customers through LG&E's Gas Supply Clause ("GSC") mechanism;
- providing full benefits of hedging to customers through LG&E's GSC

⁴ See Commission Order in Administrative Case No. 384 dated July 17, 2001, at p. 11 and p. 19.

mechanism;

- allowing LG&E adequate flexibility to manage the hedge plan; and
- retaining LG&E's ability to maximize its performance and pursue a least cost purchasing strategy pursuant to its gas supply cost Performance-Based Ratemaking ("PBR") mechanism.

DESCRIPTION OF STORAGE-ONLY

HEDGE PLAN

Under this proposed hedge plan, LG&E will rely upon its significant storage withdrawals to act as a non-financial hedge and its quarterly GSC mechanism in order to reduce price volatility.

Storage-Only Hedge Plan Parameters

Under this proposed hedge plan, LG&E will utilize its on-system natural gas storage to provide a hedge against the volatility associated with Winter Season prices. The key element in reducing price volatility is the withdrawal of gas from storage throughout the Winter Season at a price established during the prior Summer.

Storage-Only Hedge Volumes: Below is a table setting forth the forecasted amount of gas required under normal conditions to meet LG&E's firm requirements for the

2004/2005 Winter Season (November 2004 through March 2005).⁵ The table includes the amount of gas available from on-system storage and the amount of gas to be purchased at market prices under normal conditions.

Storage-Only Hedge Volumes Table
Volumes in MMBtu

	████	████	████	████	████	████	████
████	████	████	████	████	████	████	████
████	█	█	█	█	█	█	█
████	████	████	████	████	████	████	████
████	████	████	████	████	████	████	████

Because almost all gas to refill storage is purchased prior to the beginning of the Winter withdrawal season, LG&E’s storage withdrawals offer an effective hedge which acts to reduce the volatility of LG&E’s gas costs as recovered through the GSC mechanism. This proposed plan represents a balanced portfolio of about █████ hedged volumes from storage and about █████ priced at the prevailing market price.

**BENEFITS OF STORAGE-ONLY
HEDGE PLAN**

LG&E’s 2003/2004 hedge plan approved by the Commission recognized the significant levels of storage to which LG&E has access. It likewise recognized that storage can provide a meaningful and cost effective hedge against gas price volatility. Not only can storage reduce gas costs, it also can play a significant role in reducing price volatility to

⁵ LG&E has focused its efforts at mitigating the volatility to which customers might otherwise be exposed to the months of November through March because the gas sold during this 5 month period typically

which customers might otherwise be exposed. In addition, LG&E's quarterly GSC mechanism is effective in reducing customer exposure to gas price volatility. The plan proposed herein is essentially the same as the hedge plan approved by the Commission for 2003/2004.

Historical Experience for the 2003/2004 Winter Season

LG&E's storage provided significant cost savings to its customers during the 2003/2004 Winter Season. For the 2003/2004 Winter Season, approximately [REDACTED] of net gas sendout, or about [REDACTED] Mcf, was gas withdrawn from LG&E's storage. That gas was priced at about [REDACTED] -- a level significantly less than gas purchased in the marketplace. This difference resulted in about [REDACTED] in gas cost savings for LG&E's gas customers, all of which was provided directly to customers through LG&E's GSC mechanism.

Importantly, for the 2003/2004 Winter Season, storage withdrawals also significantly reduced gas price volatility. Using a standard deviation analysis to measure volatility,⁶ at

represents about three-fourths of the gas sold during any 12 month period.

⁶ Standard deviation is a statistical term that provides an indication of volatility. It measures how widely values (in this case natural gas prices) are dispersed from the average. Dispersion is the difference between the actual price and the average price. The larger the difference between the actual prices and the average price, the higher the standard deviation will be, and hence the higher the volatility. The closer the actual prices are to the average price, the lower the standard deviation, and hence the lower the volatility. Given a forecasted value and a standard deviation, the possible range of actual values can be found. Assuming a normal distribution, there is a 68% probability that the actual value will be either one standard deviation above or one standard deviation below the forecasted value or +/- 1 standard deviation. There is a 95% probability the actual value will be within +/- 2 standard deviations, and there is a 99.7% probability the actual value will be within +/- 3 standard deviations. Thus, the standard deviation is a very concise and powerful way of conveying the amount of uncertainty in a forecast. The smaller the standard deviation, the less the uncertainty. Therefore, volatility can be expressed as a percentage calculated by dividing the

a weighted average annual purchased gas cost of about [REDACTED], the standard deviation associated with purchased gas costs was about [REDACTED], or about [REDACTED] volatility. Because of gas withdrawn from storage, LG&E's weighted average annual net gas supply expenses⁷ were about [REDACTED], with a standard deviation of about [REDACTED], or about [REDACTED] volatility.

In addition to the volatility reduction provided by storage, LG&E's quarterly GSC mechanism also had an additional and significant dampening effect on the price volatility which might otherwise have been experienced by customers – even with storage. Again, using a standard deviation analysis as a measure of price volatility, at a weighted annual average GSC commodity rate of about [REDACTED], the standard deviation associated with LG&E's gas commodity rate was [REDACTED], or [REDACTED] volatility. Therefore, LG&E's use of both its storage and its quarterly GSC mechanism acted to significantly reduce volatility from [REDACTED] to [REDACTED] over the course of the 2003/2004 Winter Season.

Impact of Storage-Only Hedge Plan for 2004/2005 Winter Season

As indicated from historical experience for the 2003/2004 Winter Season described above, LG&E's on-system storage and quarterly GSC mechanism have, in combination, significantly reduced volatility as experienced by customers. As discussed below, LG&E's estimates for the 2004/2005 Winter Season indicate that LG&E's storage and its quarterly GSC mechanism will continue to reduce volatility.

standard deviation by the average, and a reduction in volatility measured in terms of a reduction in that percentage.

⁷ Net gas supply expenses can be defined as purchased gas costs less storage injection costs plus storage

If LG&E had no access to on-system storage and recovered gas costs through a monthly GSC mechanism (in lieu of the current quarterly GSC mechanism) the expected mean weighted average cost estimated for the 12 months ended April 30, 2006, is [REDACTED]. The expected standard deviation is estimated at [REDACTED] or [REDACTED] volatility. Reflecting LG&E's significant on-system storage quantities, but still assuming cost recovery through a monthly GSC mechanism, the expected mean weighted average cost is estimated at [REDACTED], with an expected standard deviation of [REDACTED], or [REDACTED] volatility.⁸ Reflecting LG&E's significant on-system storage quantities and its quarterly GSC mechanism reduces the expected mean weighted average gas cost to [REDACTED] with an expected standard deviation of [REDACTED], or [REDACTED] volatility. It is important to note that a quarterly GSC mechanism does not act to reduce costs. It does, however, act to reduce volatility.

Other Items Related to Storage-Only Hedge Plan

This plan does not involve any change to the way in which LG&E currently incurs or recovers its gas supply costs, and as a result LG&E is not seeking any modifications to its GSC mechanism. Under the storage-only hedge plan, customers will also not be exposed to any additional costs related to financial hedging transactions.

withdrawal costs. LG&E recovers net gas supply expenses through its GSC.

⁸ This level of volatility reduction is based upon a currently expected mean storage inventory price at October 31, 2004, of about [REDACTED]. This storage withdrawal price is only an estimate and is based upon expected price levels projected immediately prior to this filing. Actual costs will be dependent on actual prices available in the market when purchases are actually made. However, price movements may not allow

Therefore, LG&E's current procurement and cost recovery strategies can be expected to reduce both the rates paid by customers and the volatility relative to levels otherwise experienced by customers. Any benefits provided by financial hedging under other hedging programs would need to be measured in terms of reduced volatility and associated costs as compared to LG&E's current procurement strategy to determine if any incremental improvements are likely and at what costs those improvements may be achievable.

**COMPARISON OF RESULTS OF
PROPOSED NON-FINANCIAL HEDGE PLAN
TO OTHER SCENARIOS
INCLUDING SUPPLEMENTAL FINANCIAL HEDGING**

Analytical Framework

In order to evaluate LG&E's proposed hedge plan and supplemental financial hedging activity, LG&E developed a model intended to replicate as nearly as possible its purchases of natural gas and the associated incurrence of gas supply costs. To this model, LG&E has applied the use of Monte Carlo simulation analysis.⁹ Monte Carlo analysis allows the likelihood of a scenario to be evaluated by using probability distributions for

the currently estimated storage inventory cost at October 31, 2003, to be achieved.

⁹ A Monte Carlo simulation selects values at random in order to simulate a model. Variables with a known range of values – for example price – but with an uncertain value for any particular time or event – a given month of the Winter Season, for example – will be repeatedly plugged into the equation until an array is developed. Monte Carlo simulation can be an effective means to model and determine a probability distribution for a given variable. For example, of particular interest might be the probability of experiencing extremely high prices that had not been historically observed.

certain outcomes in lieu of relying upon single point deterministic estimates.¹⁰

Accordingly, LG&E has developed a set of scenarios intended to assist the Commission in reviewing the hedge plan proposed by LG&E in this filing. Those scenarios which provide the groundwork for analyzing the costs and benefits of non-financial and financial hedging on LG&E's customers are outlined below.

- *Case 1:* Monthly GSC/No Storage Hedge
- *Case 2:* Monthly GSC and Storage Hedge
- *Case 3:* Quarterly GSC and Storage-Only Hedge (Proposed Plan)
- *Case 4:* Quarterly GSC, Storage, and Supplemental Financial Hedge Scenario

The first case is used to measure the forecasted gas costs and volatility associated with LG&E's gas procurement efforts assuming LG&E did not have access to on-system storage and assuming monthly GSC filings (Case 1). The second case is used to measure the impact of storage on LG&E's gas procurement efforts still assuming monthly GSC filings (Case 2). The third case is used to measure the impact of storage on LG&E's gas procurement efforts assuming quarterly GSC filings (Case 3/Proposed Plan). The fourth and last case is used to measure the impact of financial hedging as a supplement to storage and a quarterly GSC mechanism (Case 4). (The specific parameters used by

¹⁰ Monte Carlo simulation allows variables to be specified to the model as randomly-selected values subject to set criteria, rather than as specific inputs. The Monte Carlo simulation samples many possible combinations of input variables in its computations, and presents its output as probability distributions of expected values for forecast parameters of interest. This technique simulates a model by repeatedly generating random values (hundreds or thousands of times) for uncertain variables in accordance with probability distribution functions.

LG&E to evaluate a potential supplemental financial hedging scenario are set forth in the attached Appendix.)

By reviewing these four scenarios in the context of a Monte Carlo analysis, the incremental impact of the two methods already being used to reduce marketplace price volatility to customers (namely, storage and a quarterly GSC mechanism as reflected in the plan proposed by LG&E) can be measured and the full array of volatility reduction efforts, benefits, costs, and their likelihood can be more clearly understood and compared to other scenarios. These analyses cannot be used as definitive projections for each of the cases, but instead can be used to show how each of the cases compare and can be expected to perform *relative to each other* under stochastically modeled conditions.

In order to compare the volatility and weighted average prices from the four cases above, a spreadsheet model was created that simulates the calculation of LG&E's cost incurrence and recovery for May 1, 2004, through April 30, 2005. This analysis includes various inputs such as natural gas purchases under normal weather conditions, storage withdrawal and injection parameters, the forecasted price of natural gas, as well as other factors. The primary outputs of this model that were analyzed by LG&E include the volatility and related weighted average price.

Monte Carlo simulation has been used to randomly generate thousands of values for the forecasted price and to create a forecast of possible output scenarios for Cases 1 through 4. The results of the Monte Carlo simulation allow LG&E to better determine the

likelihood of achieving various volatility and weighted average price levels assuming the different strategies to reduce volatility. For example, LG&E can determine the probability that a scenario will produce a standard deviation, volatility level, or mean weighted average price above or below a selected volatility or mean weighted average price level or within a selected range of those values.

Expected Mean Standard Deviation, Average Price, and Volatility

LG&E’s use of storage in combination with its quarterly GSC mechanism can be expected to provide reductions in volatility and cost impacts similar to those covered by previously approved hedge plans for the 2002/2003 and 2003/2004 Winter Seasons. The table below provides a summary of LG&E’s findings.

Case	Mean Standard Deviation	Mean Weighted Average Price	Mean Volatility as a Percentage
1. Monthly GSC - No Storage Hedge	████	████	████
2. Monthly GSC and Storage Hedge	████	████	████
3. Quarterly GSC and Storage Hedge Proposed Hedge Plan	████	████	████
4. Quarterly GSC, Storage, with Supplemental Financial Instruments	████	████	████

Under Case 1 (no storage/monthly GSC) the expected standard deviation is █████ and the mean expected price is █████, or a volatility of about █████. Under Case 2 (monthly GSC with storage) the expected standard deviation is █████ and the mean expected price is █████, or a volatility of about █████. Therefore, storage can not only be expected to lower costs relative to a procurement strategy without storage, but can reduce volatility as

well. Under Case 3 (storage with a quarterly GSC mechanism, which is the plan proposed by LG&E herein), the expected standard deviation is [REDACTED] and the mean expected price is [REDACTED], or a volatility of about [REDACTED]. Adding a quarterly GSC mechanism to the storage scenario significantly reduces volatility without affecting cost. Therefore, before even considering any supplemental financial hedging, expected volatility has been significantly reduced from [REDACTED] to [REDACTED].

Under Case 4 (storage with a quarterly GSC mechanism and supplemental financial hedging), the expected standard deviation is [REDACTED] and the mean expected price is [REDACTED], or a volatility of about [REDACTED]. Under this scenario, financial hedging as a supplement to current procurement and cost recovery strategies slightly increases costs and volatility. The financial hedge supplement evaluated by LG&E did not provide benefits to customers in terms of either reduced volatility or lower gas costs. Therefore, the supplemental financial hedge plan evaluated by LG&E results in an expected cost increase of [REDACTED] ([REDACTED] - [REDACTED]) and a slight increase in expected volatility arising from supplemental hedging activities as compared to the plan proposed herein. Based on historical volatility and forecasted price levels, a supplemental financial hedge plan will only provide a benefit in the event of a significant “fly-up” in market prices.

Probability Analysis

Monte Carlo analysis reveals that the likelihood of achieving a lower price is greater under LG&E’s proposed hedge plan than under a hedge plan which supplements storage

with financial instruments. The benefits provided to customers under LG&E's proposed hedge plan in terms of both lower costs and lower price volatility (which arise from LG&E's storage and quarterly GSC mechanism) are already significant. Supplementing the proposed plan with financial hedging instruments will likely increase costs without decreasing volatility.

Description	Expected Standard Deviation	Expected Weighted Average Price	Expected Volatility Percentage	Probability of Volatility Lower Than	Probability of Weighted Average Price Lower Than
Proposed Hedge Plan: Quarterly GSC Storage	████	████	████	████	████
Financial Hedge Supplement: Quarterly GSC Storage Supplemental Financial Hedging	████	████	████	████	████

Under the proposed hedge plan, the probability of achieving a volatility which is lower than the expected volatility is █████. Under LG&E's proposed hedge plan, the probability of achieving a weighted average price which is lower than the expected weighted average price is █████. If LG&E's proposed hedge plan is supplemented with financial hedging instruments, there is a █████ likelihood that a supplemental financial hedging plan will produce a volatility lower than the expected volatility under the proposed hedge plan. Similarly, there is only a █████ likelihood that a supplemental financial hedge plan will produce a price lower than the expected price under the proposed hedge plan. Therefore, although the two plans produce similar levels of volatility, the plan proposed by LG&E produces a higher probability (████ versus █████) of a volatility level less than █████.

Additionally, the plan proposed by LG&E has a greater likelihood than a supplemental financial hedging scenario of producing a weighted average cost lower than [REDACTED]. Indeed, further analysis indicates that supplementing the proposed plan with financial hedging instruments will cause higher costs [REDACTED] of the time. This is the case because the costs required to financially hedge can produce benefits only under statistically unlikely circumstances.

Therefore, the expected mean cost is likely to be lower under LG&E's proposed hedge plan than under a plan which is supplemented by the use of financial hedge instruments.¹¹ Furthermore, a supplemental financial hedging plan is not expected to improve (lower) volatility. In other words, financial hedging increases costs without producing favorable results in terms of mitigating volatility. Significantly, the probabilities of achieving a lower expected weighted average price or a lower expected volatility are both greater under the proposed non-financial hedge plan than under the same plan as supplemented with financial instruments. This means that while there is a low probability that financial hedging may produce benefits for customers, the probabilities are greater that the proposed non-financial plan will produce even higher benefits in terms of the likelihood of a lower than expected volatility level or weighted average price. This illustrates that LG&E's current gas procurement efforts, which do not rely upon financial hedging, are generally better options for LG&E's customers than a supplemental financial hedging

¹¹ This does not mean that a given level of volatility can be secured and established under any type of hedging plan. What is being stated is that the actions taken under each scenario when compared to each other produce given levels of volatility relative to each other. In other words, the analysis can show where improvements (reductions) are found in volatility and average price relative to the selected scenario, not that a given price or volatility can be definitively established.

plan. Again, this is not necessarily because financial hedging always produces inferior results, but because LG&E's already significant use of storage in combination with its quarterly GSC mechanism are already cost effective in reducing volatility.

COST RECOVERY THROUGH GAS SUPPLY CLAUSE

The costs and benefits of this hedge plan associated with the use of storage would be recovered through LG&E's quarterly GSC mechanism.

PERFORMANCE-BASED RATEMAKING

The Commission has recognized in Administrative Case No. 384 that a "balanced natural gas procurement strategy that addresses the objectives of obtaining low cost supplies, minimizing price volatility and maintaining reliability of supply" "can be part of a coordinated gas procurement strategy that incorporates performance-based ratemaking with hedging and other price mitigation programs."¹²

The purpose of the PBR mechanism is to encourage least cost acquisition strategies. In consequence, LG&E's PBR mechanism also encourages it to mitigate volatility by encouraging it to make purchases at less than applicable gas supply indices under the PBR mechanism, avoid intra-month price spikes, discontinue the purchase of gas at higher prices, or purchase gas supplies at lower intra-month prices, in short to capture

¹² See Order in Administrative Case No. 384 dated July 17, 2001, at p. 18.

advantageous price movements in the market.

Natural gas purchases for physical delivery will continue to be benchmarked under LG&E's PBR mechanism with the resulting savings/expenses shared between LG&E and its customers as provided for under that mechanism.

TARIFF MODIFICATIONS

LG&E believes that Commission approval of this proposed hedge plan will not require any modifications to its current tariffs.

TIMING OF COMMISSION APPROVAL

LG&E requests that the Commission approve the hedge plan described herein at the earliest possible date.

OTHER MATTERS

LG&E also requests that the Commission approve this same hedge plan on a going-forward basis. This approval on a going-forward basis would alleviate the need to continue to make future annual hedge filings. Should LG&E choose to incorporate financial instruments in its hedge plan, LG&E will file with the Commission to seek authority for approval of a hedge plan utilizing hedge instruments.

CONCLUSION

Therefore, LG&E seeks approval by the Commission of the proposed hedge plan. LG&E believes that this proposal will fulfill the goals of the Commission as enunciated in its July 17, 2001, Order in Administrative Case No. 384.

APPENDIX

DESCRIPTION OF SUPPLEMENTAL FINANCIAL HEDGING

In evaluating the effectiveness of the hedge plan offered by LG&E for Commission approval, LG&E also considered a financial hedge plan as a supplement to its proposed storage/quarterly GSC hedge plan. Any potential benefits or costs associated with the supplemental use of financial hedges were measured in terms of the ability of a supplemental financial hedging plan to further mitigate price volatility beyond the reduction of volatility already provided by LG&E's traditional storage/quarterly GSC mechanism on a cost effective basis.

The particular financial hedge analyzed by LG&E relies upon call options to supplement the hedging already provided by on-system storage and a quarterly GSC mechanism. Call options would provide LG&E with the ability to further protect customers from price "fly-ups" by establishing a cap on prices that may be paid for a portion of LG&E's natural gas purchases. A call option program also maintains the ability to participate in downward price movements in the market and pursue least cost acquisition strategies.

The call option scenario analyzed by LG&E would limit the level of customer exposure to hedging costs as well as the amount of gas to be hedged in order to create a balanced portfolio of gas purchase options. The desirability of a particular strike price will depend upon, among other things, the price of the call option in the marketplace, historical price experiences, tolerance levels, current price projections, and volumes to be hedged, as well as the funds available for hedging. Like any form of hedging, only at expiration can the effectiveness of the hedge be known and measurable. When considering the exposure of customers to costs under any hedge plan, not only should the cost to purchase the hedging tools be considered, but also the ultimate costs to which customers may be exposed.

While the purchase of other hedging tools, such as fixed price contracts, may have lower transaction costs associated with the purchase of the hedge, they may also expose the customer to higher costs when they are settled. These higher costs can arise due to the foregone opportunity to purchase gas at market prices that are lower than the price which has been fixed. Fixed price contracts do not allow for the participation in downward price movements. In fact, with fixed price hedging, customers are penalized if market prices are lower than anticipated. In summary, the use of call options provides the ability to further protect customers from price "fly-ups", but allows the LDC to participate (with benefits accruing to customers) in downward price movements. Such participation would not be feasible under a fixed price program.

Financial Hedge Parameters Evaluated

The financial hedge plan evaluated by LG&E is designed to allow LG&E flexibility in the purchase of call options on behalf of its customers, but places several limits on LG&E's

hedging activities. Specifically, the program evaluated by LG&E incorporates limits associated with a Target Strike Price, a Financial Hedge Period, Winter Maximum Financial Hedge Volumes, a Price Stabilization Fund, and a Financial Hedge Implementation Schedule. These limits are further described below.

Target Strike Price: The Target Strike Price (“TSP”) is an integral part of the call option program. The TSP is designed to be the lowest strike price which would be secured through the purchase of call options for those volumes subject to financial hedging. Based on market movements, it may be necessary to purchase call options with strike prices higher than the TSP depending on movements in the marketplace. The TSP applicable to the call option program evaluated by LG&E is [REDACTED]. The TSP is applicable to each month of the Financial Hedge Period.

The TSP, which was determined by analyzing the volatility of monthly NYMEX natural gas prices over the last five years, represents two standard deviations above the average price during the five-year period.

Financial Hedge Period: The Financial Hedge Period (“FHP”) was limited to the months of November 2004 through March 2005.

Winter Maximum Financial Hedge Volumes: The Winter Maximum Financial Hedge Volumes (“WMFHV”) limit the seasonal volumes of natural gas that LG&E can hedge using call options. LG&E’s analysis assumes a WMFHV of [REDACTED].

Below is a table setting forth the WMFHV based upon the amount of gas required under normal conditions to meet LG&E’s firm requirements for the proposed FHP. The table includes the volumes of gas to be financially hedged (WMFHV), the volumes to be purchased at a market price, and the volumes to be delivered from on-system storage to meet firm requirements under normal conditions.

In order to determine the WMFHV, LG&E estimated the gas required for its sales customers assuming normal weather. The normal gas requirements that must be delivered via interstate pipelines to LG&E’s system is then determined by subtracting LG&E’s on-system storage withdrawals from total normal requirements. The remaining amount of gas must be delivered via interstate pipelines to LG&E’s system. Those pipeline deliveries represent the volume of gas that is available to be financially hedged using call options. In order to achieve a more balanced portfolio, a portion [REDACTED] of the volume of gas available could be financially hedged, as set forth in the table below.

Winter Maximum Financial Hedge Volumes Table
 Volumes in MMBtu

Call options purchased to cover the Maximum Financial Hedge Volumes could supplement the amount hedged through storage and would enable LG&E “to pursue a balanced portfolio of gas supply contracts with different terms and conditions, such as market prices, fixed prices, etc....”¹³ as prescribed by the Commission’s Order in Administrative Case No. 384. Under the financial hedge scenario evaluated by LG&E, approximately [REDACTED] of the volume is subject to either financial hedging or hedged through storage and about [REDACTED] is subject to prevailing market pricing in order to achieve a balanced portfolio.

Other Items Related to Financial Hedge Plan

The adoption of a supplemental financial hedge plan by LG&E would require specialized accounting systems and financial reporting procedures, evaluation of counter-party credit risks, the implementation of policies, procedures, and controls to implement a financial hedging program. Similarly, if LG&E were recommending such a program it would also have specified both a Price Stabilization Fund¹⁴ amount as well as a Financial Hedge Implementation Schedule¹⁵. These requirements are not discussed herein because LG&E is not recommending a financial hedging plan.

¹³ See Order in Administrative Case No. 384 dated July 17, 2001, at p. 10.

¹⁴ The Price Stabilization Fund (“PSF”) would represent a maximum limit to the amount that could be spent to purchase call options and to implement its call option program. Establishing a PSF would meet the goal of limiting the amount of costs to which customers would be exposed as the result of implementing the proposed hedge plan.

¹⁵ The Financial Hedge Implementation Schedule (“FHIS”) applicable to a supplemental financial hedging scenario would set time limits related to the portion of the WMFHV that can be hedged at a specific point in time. The FHIS allows the purchase of call options to be spread over the prescribed period and supports a “dollar cost averaging” strategy.